Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
An Allocation of Spectrum for the Private Mobile Radio Services	)	**RM-9267**
	)	

To: The Commission

STATEMENT IN SUPPORT OF PETITION FOR RULE MAKING FILED BY THE LAND MOBILE COMMUNICATIONS COUNCIL

The Dataradio Group of Companies (DATARADIO), by its attorneys and pursuant to Section 1.405(a) of the rules and regulations of the Federal Communications Commission, hereby submits this *Statement in Support of the Petition for Rule Making Filed by the Land Mobile Communications Council* in the above-captioned proceeding.

INTRODUCTION

The Dataradio Group of Companies consists of Dataradio, Inc., Dataradio Corporation and Johnson Data Telemetry Corporation. The Dataradio companies are engaged in the development, manufacture and implementation of wireless products and networks that support data applications for both mobile and fixed uses by private entities, including such critical mission users, among others, as Utility Companies and entities engaged in Land Transportation and Energy Production and

Transmission.

OVERVIEW

DATARADIO heartily endorses the above-referenced petition for rule making filed by the Land Mobile Communications Council (LMCC). In recognition of the critical spectrum requirements that LMCC addresses in its petition, DATARADIO urges the Federal Communications Commission (Commission) to initiate promptly those measures necessary to allocate spectrum and adopt rules in support of the allocation requested by LMCC.

DATARADIO specifically requests that the Commission take care to: (1) avoid creating an application process that gives rise to mutually exclusive applications and, in turn, spectrum auctions; (2) refrain from commingling commercial mobile radio service (CMRS) and private mobile radio service (PMRS) systems in the same allocation; and (3) allocate adequate spectrum to accommodate broadband applications, in general, and efficient non-voice general data applications, in particular.

STATEMENT IN SUPPORT OF LMCCS PETITION

LMCC's petition for rule making clearly demonstrates the growing needs of private industry and the currently congested nature of the frequency bands allocated to the private mobile radio services. Further, the petition accurately depicts the unique

nature of the private services and the role they play in the conduct of operations essential to the public sector and industry.

The Increased Utilization of Data Technologies Presents a Changing Landscape.

LMCC's petition for rule making draws attention to the importance of data technologies for PMRS users.[1] LMCC observes, quite accurately, that prior FCC allocation decisions have tended to depress the use of data. [2] DATARADIO believes that the Commission must be more cognizant of the actual role data is playing in the changing landscape of land mobile communications. Equally important, the Commission's allocation decisions must respond to this changing landscape in two critical respects. *First*, the Commission must designate more spectrum specifically for data technologies. *Second*, the Commission must adopt rules that properly recognize the role of data technologies as a more efficient and forward-looking means of serving the public through the private mobile radio services.

As one of the nation's most prominent manufacturers of data equipment for land mobile communications, DATARADIO has had ample opportunity to assess the impact of data technologies in the industrial environment. Within the past decade, data technologies have experienced a significant increase in industrial usage. While there are many factors that have contributed to the growth of data technologies, one of the most prominent reasons underlying this growth is the simple fact that data transmissions are considerably more efficient than voice transmissions.

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[1] See, *e.g.*, paragraph 39.

[2] As paragraph 39 of the petition notes, the effort to accommodate isochronous voice and asynchronous data services in the same spectrum range engenders often insoluble channel monitoring issues. The time-worn solution has been to favor voice services at the expense of data services.

Consequently, when the Commission makes an affirmative decision to allocate increasing amounts of spectrum for data transmissions rather than voice, the net effect is increased spectrum efficiency.

The increased utilization of data technologies is exerting a significant impact on the manner in which mobile communications are employed by private entities. Increasingly, industrial concerns are relying on data technologies to promote operating efficiencies, enhance worker safety and, in general, make U.S. corporations more competitive in the global marketplace.

Data Technologies Are the Key to Greater Spectrum Efficiency.

The increased use of data technologies will ultimately promote greater spectrum efficiency as much of the current voice operations will be supplanted by information provided in the form of digital communications. Illustrative of the emerging data uses are: the transfer of textual information between system operators and mobile workers, including but not limited to more accurate and faster dispatching; faster and more widespread access to automated data bases; transfer of image and other graphic information to effect more timely job performance; and improved and more timely vehicle location information as a means of enhancing safety and efficiency.

A New Paradigm Is Developing in the Deployment and Management of Resources.

Over the past ten years, hundreds of companies have been created out of the need for providing application and related software in response to the trend toward enhanced use of data technologies. This is truly a marketplace in action -- not one mandated by any sort of regulatory initiatives. The appearance of data application and software solutions has created a new paradigm for communications between mobile workers and their related base operations. Land mobile technology now increasingly includes the techniques of CAD

(computer-aided dispatch), mobile computing, AVL (automatic vehicle location), and other methods for better deployment and management of people and other resources. The Internet, for example, has fostered a massive acceptance of "Browser" HTML communications tools. The current spectrum allocations and channel plans do not permit the elevated data rates required to support fleets of users sharing the same RF channel. Surfing the web at 9600 baud from one's home is tedious at best. In an industrial setting, where a single 9600 baud channel is often expected to support a population of as many as 75 simultaneous users, the complexities increase dramatically and the pace of each inquiry or transaction slows to a nearly unacceptable level.

In its current stage, industry is heavily oriented toward the use of wire and radio-based local area networks (LANs). The industry requires the same performance from its mobile work stations as it derives from wired LANs. As noted in LMCC's petition, new spectrum allocations are needed to provide an environment in which these sophisticated and efficient applications will be able to work in support of organizations that rely heavily on timely access, control and adequate communications capacity. It is not sufficient, however, merely to allocate new spectrum for data applications. It is equally important that the Commission refrain from imposing unnecessary restrictions on bandwidth and channel size.

Private Data Applications Are User Specific.

Communication support for the new data application and software solutions is best carried out in systems that are uniquely designed using a private network. The bulk of the private land mobile community defined in LMCC's petition have chosen not to use CMRS networks for their communications requirements. There are two principal reasons responsible for this development: *first*, CMRS networks are often not designed to transmit data and, *second*, CMRS

networks are often incapable of properly supporting the needs of private users.

Private data applications are very user specific. For this reason, the "one size fits all" philosophy of CMRS networks has not been effective, in many cases, due to such factors as the lack of coverage area, network availability (timely access) during emergency situations and throughput (response time). In addition, there are economic factors that provide a distinct incentive for users to invest in appropriate private data networks rather than being limited to using CMRS, assuming an appropriate CMRS system is even available. Traditionally, many users have capitalized the costs of their private systems and have experienced a return on them, thus enabling the users to upgrade and renew these resources and yet still remain competitive. In contrast, customers on a CMRS system risk becoming a captive customer and, in that sense, are entirely dependent on the third party provider to offer economic rates. Further, private industry cannot be dependent upon CMRS providers to make, on a timely basis and coincident with users requirements, service architecture changes that are most appropriately handled in high bandwidth channels. CMRS systems are often unable to provide users with wideband data for image and graphical information transfers that require high bandwidth channels. Often, the CMRS systems simply do not have the option to make high bandwidth channels available to users.

Private Users Information Exchange Is Inherently Intense.

The deployment of data applications in private industry (vertical markets) has grown quickly -- and with a corresponding increase in the level of innovation in software and RF transmission technology. Through enhancements and innovation, manufacturers, software developers and users have successfully optimized the use of data in the limited amount of

spectrum available to date. Examples of the enhancements and innovation that have taken place in the use of data include user-transparent wide-area roaming of vehicles among multiple base stations, integration of fixed and mobile data applications on common channels, and increasing data throughput through the development of transmission protocols compatible with individual user characteristics. "Mobile computing" has, as such, become an adaptation of wired information networks that support the entry of an enterprise into the wireless world of private land mobile communications. In general, this level of information exchange intensity is particularly high and, as noted in LMCC's petition, unique to users in private "workhorse" radio networks. While CMRS systems accommodate some data needs, such data transmissions tend to be light duty, general purpose applications for which a shared network is most appropriate. For this reason, the CMRS networks are by no means a suitable substitute for data users who require an economically viable way to deliver their data services.

The Commission Must Allocate Sufficient Spectrum for Data Transmission Requirements.

DATARADIO urges the Commission to include, as part of any Notice of Proposed Rule Making issued in this proceeding, sufficient allocations of spectrum for data transmission requirements. The demand for data transmission is well-established. DATARADIO notes that data applications are more efficient than voice and represent a high potential for spectrum efficiency. Accordingly, DATARADIO urges the Commission to give greater emphasis to supporting data operations in the instai proceeding -- in stark contrast to the secondary status accorded data applications in previous allocations.

Specifically, DATARADIO recommends that the Commission, when allocating spectrum and

developing the rules for coordinating and licensing such spectrum, recognize the rapid demand growth rate for data technology, as opposed to voice. In practical terms, the spectrum allocation and the implementing rules should incorporate an appropriately high percentage of spectrum dedicated to data. The industry, and the public interest, deserve no less.

In addition, DATARADIO recommends that any Notice of Proposed Rule Making issued in this proceeding propose a base criteria for specific bandwidth assignments, based on such factors as network data rate (bits per hertz) and similar technical parameters. In proposing such criteria, however, the Commission must take care to neither require nor endorse any specific technology. Moreover, the criteria developed should incorporate only those factors necessary to ensure an effective signal and the protection of other users.

The Existing Frequency Coordinating Committees Are Best Suited To Ensure Efficient Assignment and Use of the Spectrum Allocated.

In the matter of spectrum management, DATARADIO concurs with the LMCC that the existing frequency coordinating committees are best suited to configure and apply the radio spectrum to meet the needs of users. It is DATARADIO's view that, in the past, there have been too many constraints placed on applicants, based on rules that either were not sufficiently flexible or were not designed to accommodate near and short-term changes in technology and user requirements. As a result, rules that were written in a system-specific or technology-specific manner thwarted the inevitable developments in technology and innovation within the industry. Restrictions on bandwidth and channel constraints exert the same effect. The Commission should impose only the minimum rules necessary to protect co-channel users and ensure efficient use of the spectrum. As noted in LMCC's petition for rule making, reliance on the recognized frequency coordinating

committees will place the burden

on the industry to bear the economic burden of managing the spectrum and not on the FCC.

CONCLUSION

DATARADIO strongly urges the Commission to issue a Notice of Proposed Rule Making that would allocate the spectrum proposed by the LMCC in a prompt and timely manner. The Commission mustrecognize that private industry, particularly those sectors that are automation intensive, is becoming more reliant on information with which to control, monitor and maintain key industrial operations. Moreover, due to the effects of deregulation and competition, in almost all sectors of private industry, there are fewer personnel available to assist in controlling, monitoring and maintaining operations. The information necessary to control, monitor and maintain operations has, therefore, become more critical. It must be available to private users on a timely basis.

Formerly, the information essential to industrial management has been provided through industrial organizations ownership of their own networks. However, without additional spectrum, allocated soon, business and industry will not have sufficient frequencies to support their modern data needs. Failure to respond to the needs identified in the LMCC petition, and specifically the failure to provide adequate spectrum for data technologies, will place much of the nation's

industrial infrastructure at risk. This result would be directly at odds with the best interests of industry and the country as a whole.

Respectfully submitted,

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Date: June 3, 1998